

MISSOURI DEPARTMENT OF CONSERVATION



December 2010/January 2011

# Xplor

kids' adventures in nature

## WINTER'S INSULATORS

KEEP COZY WITH THESE  
TIPS FROM MISSOURI'S  
COLD-WEATHER EXPERTS!

# COTTONTAILS



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The Brandt family hits the trail for cottontails.

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## ON THE COVER



OPOSSUM  
photo by Noppadol Paothong

## ON THE WEB

Visit [www.xplormo.org](http://www.xplormo.org) for cool videos, sounds, photos, fun facts and more!



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**We recycle. You can, too!**  
**Share *Xplor* with friends.**



# PHOTOS

with Nop & Dave



## Frozen Moments

photo by Noppadol Paothong

It takes an extreme photographer to capture extreme wildlife. Fortunately, Nop Paothong has the eye of an eagle and the stubbornness of a Missouri mule. Follow Nop's advice to take great eagle photos.

**Chill Out**—Nop says the colder, the better. “Really cold,” he emphasizes. Missouri is a popular winter stop for bald eagles, so when temperatures plummeted below freezing, Nop hurried to Clarksville, a town along the Mississippi River. There, he was astounded to find more than 700 eagles busy feeding. Although his camera was soon encased in ice and ice crystals kept freezing his eyes shut, Nop's thick down jacket allowed him to keep shooting photographs.

**Stay Cool**—Taking great photos takes patience and plenty of shots. Eagles can dive at speeds of more than 100 miles per hour. When they're feeding, prepare for quick movements.

Nop's patience netted the photo you see here, as a female quickly gulped down a fish and leapt into flight from an ice floe.

Nop photographed eagles for *three weeks straight*, shooting more than 10,000 photos. Later he edited those down to about 2,000 keepers. Nop is serious about taking great wildlife pictures—he's worn out the shutter in his camera *twice*!

To see more of Nop's photos, go to [www.xplormo.org/node/10546](http://www.xplormo.org/node/10546).





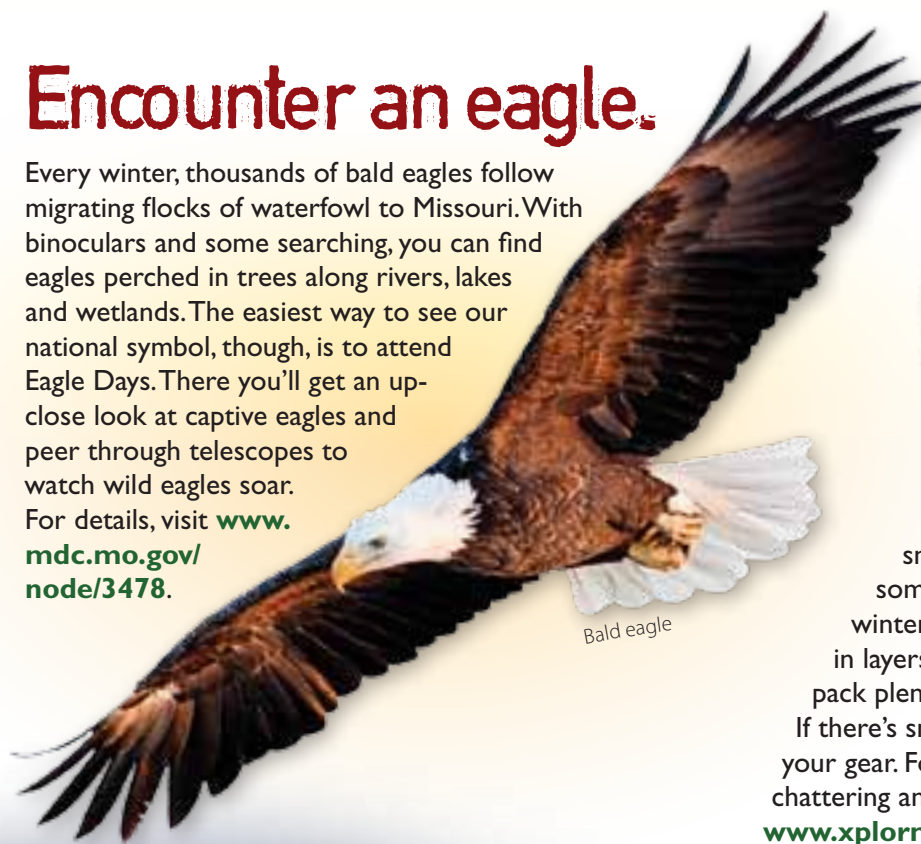
# You discover



Don't stay inside when the snow gets to blowing. Get out to discover nature coming and going. Here are a few ideas to keep you outside in December and January.

## Encounter an eagle.

Every winter, thousands of bald eagles follow migrating flocks of waterfowl to Missouri. With binoculars and some searching, you can find eagles perched in trees along rivers, lakes and wetlands. The easiest way to see our national symbol, though, is to attend Eagle Days. There you'll get an up-close look at captive eagles and peer through telescopes to watch wild eagles soar. For details, visit [www.mdc.mo.gov/node/3478](http://www.mdc.mo.gov/node/3478).



Bald eagle

## Sleep in THE SNOW.

Don't stow your tent when snowflakes start to fall. With some planning and the right gear, winter camping can be really cool. Dress in layers, wear warm, waterproof boots and pack plenty of snacks to fuel your body's furnace. If there's snow on the ground, use a sled to haul your gear. For more tips to keep your teeth from chattering and your camp comfortable, go to [www.xplormo.org/node/10545](http://www.xplormo.org/node/10545).



## Go raccoon hunting.

Imagine this: You're standing in the pitch-black woods on a cold winter's night. Suddenly, the silence is shattered by a dog barking. You flip on your headlamp and plunge through the trees toward the sound—one of your hounds is on the trail of a raccoon! To experience this thrill firsthand, tag along with a 'coon hunter. For a rundown on raccoon hunting, visit [www.xplormo.org/node/10547](http://www.xplormo.org/node/10547).





## PROWL for OWLS.

Hoo's hiding out there in the dark? The longest night of the year, December 21, is the perfect time to find out. Bundle up, pack a thermos of hot chocolate and head out after sunset for an owl prowling. If you give a hoot, check out [www.xplormo.org/node/10548](http://www.xplormo.org/node/10548) to learn about Missouri's most common owls and hear their calls.

## Stock your fly box.

There's no reason to stay indoors when school's out for a snow day. But, when you're tired of sledding, ice skating, snowball fights and building snowmen, put your time inside to good use: Tie some flies to stock up your vest for trout fishing. Instructions for tying a woolly bugger, one of the world's fishiest flies, can be found at [www.xplormo.org/node/3560](http://www.xplormo.org/node/3560).



## Recycle your Christmas tree.

A cut Christmas tree is a gift that keeps on giving for winter birds. After the holidays, strip your tree of ornaments and stash it under a bird feeder. It will offer birds shelter when the wind blows and a place to escape to when the neighbor's cat comes prowling. Treat your feathered friends to some sweet eats by decorating the tree with popcorn strings or pine cones smeared with peanut butter.

## MAKE A RESOLUTION.



Adults often struggle to keep their New Year's resolutions, goals they hope to achieve in the coming year. You can make a resolution that's fun and easy to keep. Just promise to play outside more in 2011. We'll even help. Check out Xplor's weekly *You Discover* blog at [www.xplormo.org](http://www.xplormo.org) for ideas and inspiration to get you off the couch and out the door.

## Start your year with a BANG.

The late portion of the youth firearms deer season is January 1–2. If you're at least 6 but no older than 15 and have an unfilled firearms deer-hunting permit, you can participate. Head to [www.mdc.mo.gov/node/3861](http://www.mdc.mo.gov/node/3861) for details, then grab an adult and head to the woods. After all, there's no better way to start 2011 than by sitting in a deer stand.



MDC  
**DISCOVER  
nature**

Looking for more ways to have fun outside? Find out about Discover Nature programs in your area at [www.xplormo.org/xplor/stuff-do/all-events](http://www.xplormo.org/xplor/stuff-do/all-events).



# WILD JOBS

## Scat Collector

IT'S A STINKY JOB, BUT SOMEONE HAS TO DO IT.

Justan Blair's job really stinks. As a wildlife research assistant, one of his tasks is collecting scat—poop—of river otters and black bears. Why would Justan do such a thing? “You can learn a lot from scat,” Justan says.

By picking apart bear scat, Justan learns which berries, nuts and other foods bears have been eating. This information helps wildlife managers know which plants to grow to keep bears well fed.

River otters leave scat in the same places again and again. Justan and other researchers canoe from one otter bathroom to another and remove every bit of scat they find. By counting how much new scat is deposited at each site, Justan can figure out how many otters live on that stretch of river. Each bit of scat is tested to learn what the otter has been eating and whether the otter is male or female.

Although Justan's job is no bed of roses, there are some benefits to being a scat collector. “I spend four months of the year canoeing down some of the prettiest rivers in the state,” Justan says. “How many folks get paid to do that?”

Bear poop



# Yuck!

YOUR GUIDE  
TO ALL THE  
NASTY,  
STINKY,  
SLIMY AND  
GROSS  
STUFF THAT  
NATURE HAS  
TO OFFER

## GROTTO SALAMANDER

Slime, stink and total darkness—to a grotto salamander, that's home, sweet home. These cotton-candy-colored amphibians slink around in caves deep underground. They have eyes, but don't get to use them because they live in a lifelong lights out. In total darkness, they hunt for insects on mountains of bat droppings all day long. They don't even have lungs or gills—they "breathe" oxygen right through their skin, thanks to a healthy slathering of slime.

# Strange BUT TRUE

Imagine tasting a pizza just by sitting on it. If you were a catfish you could—it's a super-duper swimming tongue. Its whole body is covered with taste buds. Even a little catfish has more than 500,000 taste buds coating its slippery skin. Your tongue only has about 10,000. This bounty of buds isn't there to make a catfish's dinner taste better. They help the catfish nab a tasty snack even in dark and murky water.

Flathead catfish



# WHAT IS?

**DON'T KNOW?**

Jump to Page 16 to find out.



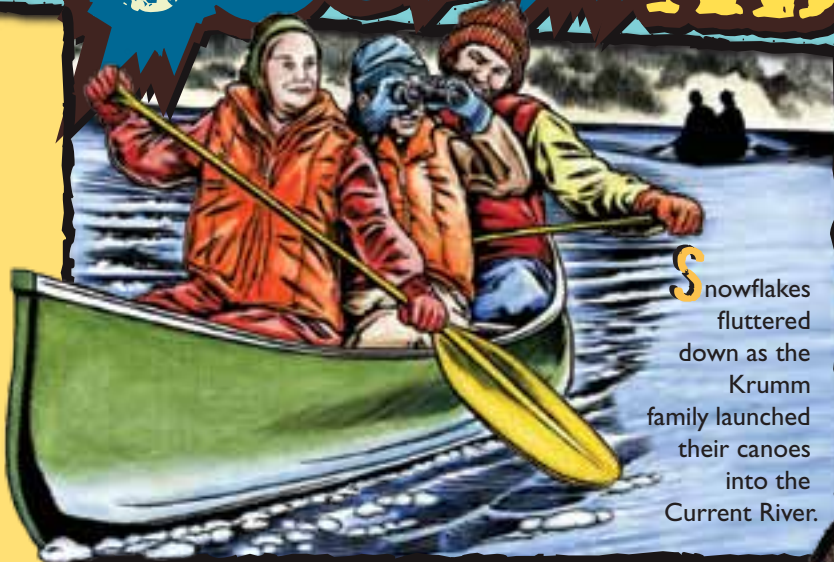
I shimmy and shake but not when I dance.  
I wear a waterproof coat even when it's sunny.

I slide in the snow but not on a sled.  
You otter know the answer to this one.



# NEW OUTDOOR ADVENTURES

BY THE KRUMMS:  
AMBER, 13; APRIL, 12; AND ALEC, 8



Snowflakes fluttered down as the Krumm family launched their canoes into the Current River.



Ice skimmed the river's edges, and icebergs of snow swirled in eddies. Despite the chilly weather, the Krumms were toasty. Under their life jackets, they wore layers of fleece, heavy coats and coveralls. They liked canoeing in winter. It was pretty, and they had the river all to themselves. They saw mink and beavers. A bald eagle soared overhead.

That evening, the Krumms camped on a gravel bar. The kids gathered lots of wood and helped build a warm, roaring fire. They made lasagna in a Dutch oven and toasted marshmallows for s'mores. Even with sleeping pads, the ground under their tents was bumpy and uncomfortable. But, worn out from a fun day of paddling, the kids slept like rocks.



The next day, Amber and her dad swamped their canoe. Amber's life jacket kept her afloat, but the icy water took her breath away. Both she and her dad scrambled quickly to shore to change into dry clothes. It didn't take long until they were warm again.

Despite the dunking, the kids agreed it had been a spectacular adventure. Taking a winter float trip has been a fun family tradition for the Krumms ever since.



For winter camping tips, paddle over to [www.xplormo.org/node/10545](http://www.xplormo.org/node/10545).





Eastern cottontail

Let's go

# Rabbit hunting!

by Matt Seek

photos by Dave Stonner

**K**elsey Brandt waits, shotgun ready, poised for action. A few feet away, her sister's beagle, Snoopy, tunnels through a brush pile. Kelsey can hear the dog snuffle, sucking every molecule of scent into her snout like a furry, four-legged vacuum. The dog's tail wags in overdrive, a white-tipped blur of nervous energy. Suddenly, Snoopy's tail stops.

"Get ready," Kelsey's dad says. "Snoop's got something."

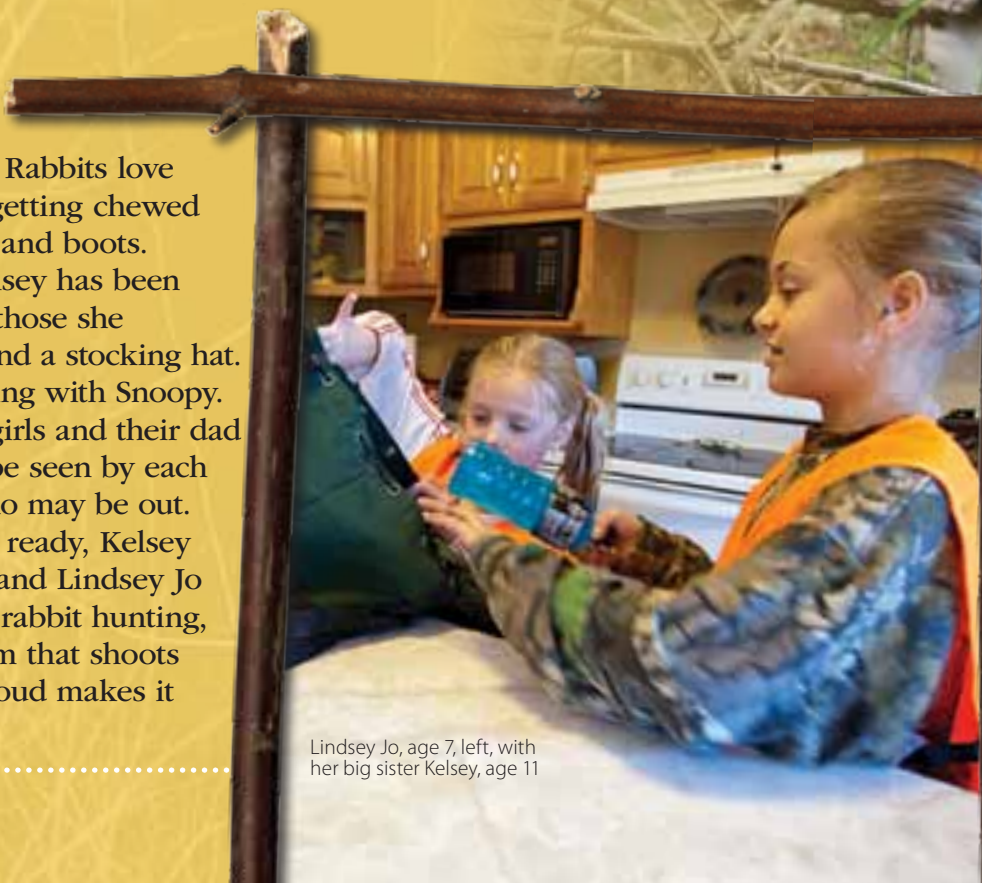
Kelsey lifts the shotgun to her shoulder and puts her finger on the safety. Is there a cottontail hiding somewhere in the brush?

## Gearing up

Earlier that morning, Kelsey and her sister, Lindsey Jo, pull on their rabbit-hunting clothes. Rabbits love briars and brambles. To avoid getting chewed up, the girls tug on thick jeans and boots.

Although it's warm today, Kelsey has been on some cold rabbit hunts. For those she recommends layers of clothes and a stocking hat. Lindsey Jo recommends snuggling with Snoopy. Regardless of the weather, the girls and their dad wear orange vests so they can be seen by each other and any other hunters who may be out.

While their dad gets the gun ready, Kelsey loads a backpack with snacks, and Lindsey Jo sneaks in a few dog treats. For rabbit hunting, Kelsey uses a shotgun, a firearm that shoots a cloud of pellets. The pellet cloud makes it easier to hit a bounding rabbit.



Lindsey Jo, age 7, left, with her big sister Kelsey, age 11









## Super Snooper

The girls meet Snoopy in the garage.

“We named her Snoopy,” Lindsey Jo says, “because she’s always snooping and sniffing everything.”

With a nose 1,000 times more sensitive than a human’s, beagles can make sense of scents we can’t even sense. Their small size helps them weave and tunnel through brush. And, being low to the ground keeps their nose right where it needs to be—at ground level to sniff out a rabbit’s trail.

After lots of licking and tail wagging from Snoopy, Lindsey Jo clips a leash to the dog’s collar, and they head out to hunt their 40-acre farm in Osage County.

## On the Trail of Cottontails

“Hunt ’em up, Snoop,” Kelsey’s dad says. The beagle tears off, snuffling and wagging through the grass. The Brandt family follows, trying to keep up as best they can.

Kelsey carries the shotgun. For safety, she walks a few steps ahead of Lindsey Jo and her dad. Kelsey always keeps the gun pointed in a safe direction. She keeps the gun’s safety on. And, her finger stays off the trigger until she’s ready to shoot.

Rabbits live life on the edge, preferring places where two kinds of habitat come together. Brushy fencerows next to crop fields are good places to hunt. Briars, blackberry brambles and brush piles often have a bunny or two hiding inside. Clover fields tucked into the woods are rabbit factories.

As the beagle boogies through the brush, she begins to bay, a musical yodel of barking.







## Get Ready . . .

Hearing Snoopy bark is music to Kelsey's ears. She loves to follow behind and see what the dog has found. Most of the time, it's a rabbit.

They find Snoopy at the brush pile, sniffing intently. Kelsey's dad tells her to get ready.

Kelsey holds the gun at her shoulder, waiting. The shotgun is heavy, but she doesn't dare lower it. Seconds tick by, and nothing happens. Suddenly, Snoopy gives a disgusted snort, then moves off to investigate another brush pile. Kelsey's dad kicks the sticks just to be sure the brush pile is bunny-less. It is.

So is every other brush pile that day. But, that doesn't matter to Kelsey. For her, hunting isn't about shooting things. She likes watching Snoopy run and spending time with her family.

"It's okay if I don't get a rabbit," she says. "It's fun just being outside."



# THE

by Matt Seek, illustrations by Mark Raithe

**H**ow do animals tolerate the winter weather that refrigerates the Show-Me State? Humans can relocate to cozy homes and wait for temperatures to moderate. Wild critters aren't so fortunate. It's their fate to operate in winter's freezing climate. But, wait. Animals have eight great traits to help them compensate.



# "ATES"

Blackburnian warbler



## 1 MIGRATE

Many birds, such as this warbler, say "I'm outta here!" when winter arrives. They fly to warmer places where there's more food for them to eat. Birds aren't the only animals that migrate. Some bats, fish and even butterflies head south for winter, too.



Thirteen-lined ground squirrel

## 2 CONGREGATE

When you're cold, do you ever snuggle up with your family or friends? Animals do. Quail, ducks and geese gather together, or congregate, to keep cozy.

Squirrels, raccoons and honeybees huddle up in hollow trees or other hidey-holes to conserve heat.



Quail covey



Prairie vole

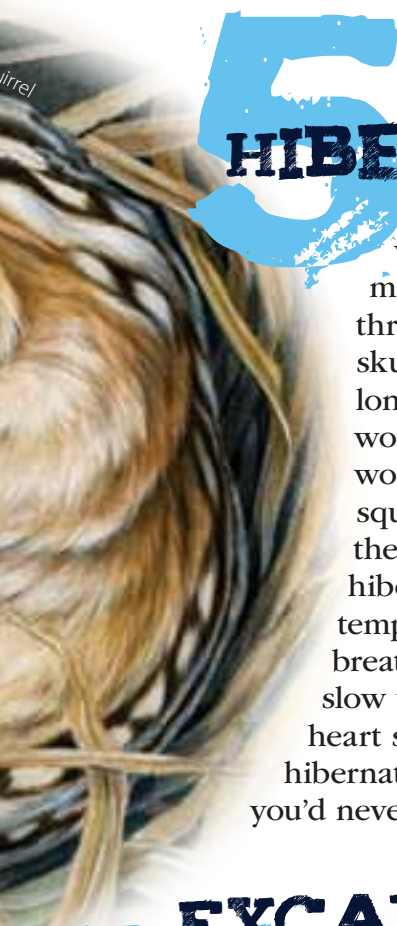




pupa

## 3 PUPATE

Some insects ride out winter as a pupa (*pyoo-puh*). Think of a pupa as an insect's teen years—a time when the baby bug changes into an adult. Lots of insects, including this Polyphemus moth, form a cocoon when they pupate. Some even have antifreeze in their bodies to keep them from turning into bugsicles when temperatures drop.



squirrel

## 5 HIBERNATE

A few animals treat winter like a boring movie—they sleep through it. Chipmunks, skunks and bears take long, deep naps during the worst winter weather. Bats, woodchucks and ground squirrels go even further—they hibernate. During hibernation, an animal's temperature drops, and its breathing and heart rate slow way down. If your heart slowed as much as a hibernating ground squirrel's, you'd never wake up!

## 7 EXCAVATE

Voles, mice and shrews excavate tunnels under the snow. The snow hides the furry mammals from hungry predators and acts like a fluffy white blanket, keeping the tunnel much warmer than the air outside. To see how toasty snow can be, build an igloo.



Red fox

## 4 INSULATE

Critters don't wear big puffy coats, but they have something just as good to insulate their bodies against winter's chill: fur and feathers. Foxes and other mammals grow thick fur coats to keep them cozy. Birds fluff up their feathers to trap warm air next to their skin.

## 6 GENERATE

We use electricity or burn natural gas to generate heat in our houses. Animals, including humans, generate heat from the foods they eat. For animals trying to survive winter, being overweight is great. Not only does extra fat help insulate their bodies, but they also can use the fat to generate heat.



Red-tailed hawk

Prairie vole

## 8 TERMINATE

Grasshoppers, mosquitoes and several kinds of spiders lay eggs before winter arrives. The adults die when the first hard freeze hits, leaving the babies to fend for themselves when they hatch the following spring.



Red-legged grasshopper



# Outdoor Christmas

by Brett Dufur

## Compass

A compass can take you anywhere you want to go.

**S**anta loves to give gifts that get kids outside. How do we know? Anyone who lives at the North Pole, raises reindeer, and flies around the world with the top down has to be a nature lover. So, go ahead and put that tent, fishing pole, binoculars or compound bow on your Christmas list. Other great outdoor gear such as a headlamp, butterfly net or compass cost \$20 or less. After all, the best toys aren't powered by batteries, they're fueled by imagination.

Looking for a great gift for mom or dad? Make up a coupon to take them fishing, canoeing or camping! Visit [www.xplormo.org](http://www.xplormo.org) for outdoor adventure ideas for all four seasons.

## Butterfly net

Catch those butterflies that flutter by.

## Nature journal

Jot down the sights and sounds of your next outdoor adventure!

## Headlamp

Don't let sundown slow you down. Explore more even after lights out.

## Binoculars

Spot birds with this handy set of eagle eyes.

## Birdseed

Create a paradise for wildlife in your own backyard.





## Nature guides

Identify any critter that slithers, flitters or skitters. Visit [mdcnatureshop.com](http://mdcnatureshop.com).



## Compound bow

Bulls-eye a target or a turkey.



## Fishing pole

It's cold now, but fishing will heat up soon.



## Bug box

Get to know your buggy neighbors.



## Tent

Camping out is tons of fun whether in your backyard or the back of beyond.





# XPLOR MOR

## IT'S TIME TO MAKE SNOW ICE CREAM

*Need a good way to refuel after a long day of playing in the snow? Make some snow cream. Just follow the recipe below to make this easy, yummy treat.*

### INSTRUCTIONS

1. Gather 2 cups of fresh, clean snow in a cup. Newly fallen snow is best. Don't pack it in as you would to make a snowball. Let it stay loose and fluffy.
2. Pour milk and sugar into the cup.
3. Add your choice of flavoring. For vanilla snow cream, add ½ teaspoon of vanilla flavoring. For chocolate snow cream, add about 3 tablespoons of chocolate syrup—more if you really like chocolate. A handful of mini chocolate chips is a yummy addition to either kind.
4. Mix well with a spoon. Don't mix too much, though, or your snow cream will get watery. It should have the texture of a thick ice cream shake.
5. Enjoy!

### Ingredients

- ❄ 2 cups fresh, clean snow
- ❄ ¼ cup of cold milk
- ❄ 1 tablespoon sugar
- ❄ Vanilla flavoring, chocolate syrup or mini chocolate chips

### ANSWER TO WHAT IS IT?

FROM PAGE 6

River otters have furry, waterproof coats that keep them warm while swimming. When otters leave the water, they shimmy and shake to dry off. Otters love to play. They dive for rocks and clamshells in the water. They wrestle with their brothers and sisters. And, if there's snow, otters get a good run, tuck their legs up, and slide over the snow on their tummies.

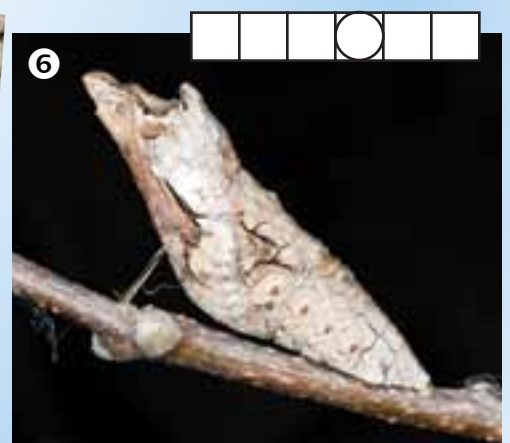
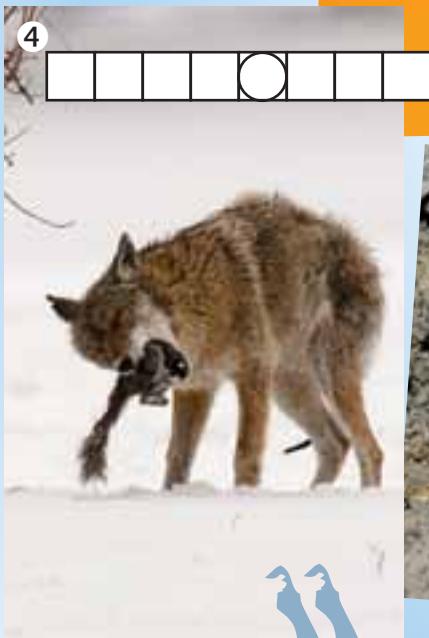
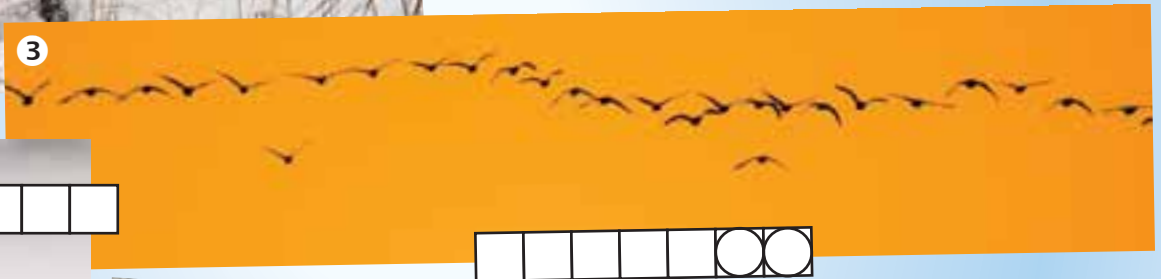
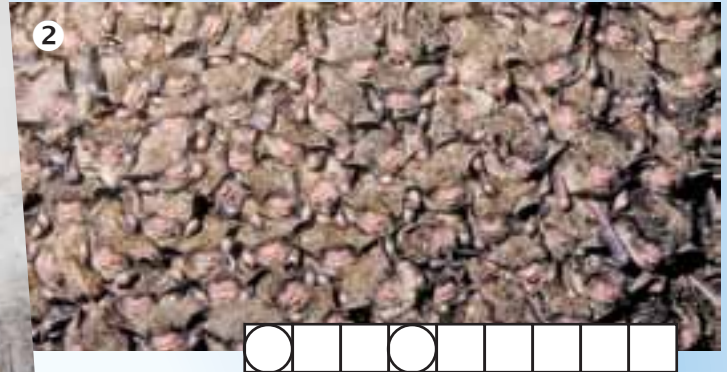






# CAN YOU IDENTIFY WHICH -ATE OF THE 8?

Can you fill in the blanks with a word that describes what each animal is doing to survive winter's cold weather? Here's a tip: Each word ends in "ate," for example, congregate. If you're stumped, turn to Page 12.



TO FINISH THE JOKE,  
UNSCRAMBLE THE  
CIRCLED LETTERS IN  
THE WORDS ABOVE

HOW DO BIRDS KNOW WHEN TO FLY SOUTH FOR WINTER?  
THEY WATCH THE F\_\_T\_\_R FO\_\_C\_\_S\_\_

ANSWERS: 1) INSULATE 2) HIBERNATE 3) MIGRATE 4) GENERATE 5) EXCAVATE 6) PUPATE  
ANSWER TO JOKE: THEY WATCH THE FEATHER FORECAST



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**FREE TO MISSOURI HOUSEHOLDS**

# NORTHERN CARDINAL



These little red puffballs visit bird feeders throughout winter. Prop up your old Christmas tree nearby to shelter cardinals and other birds from the wind. Perched there in vibrant color, the birds will continue to decorate your tree all winter long.